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# EXAMPLE OF ROTOR FLUX VECTOR DIRECTION CALCULATION

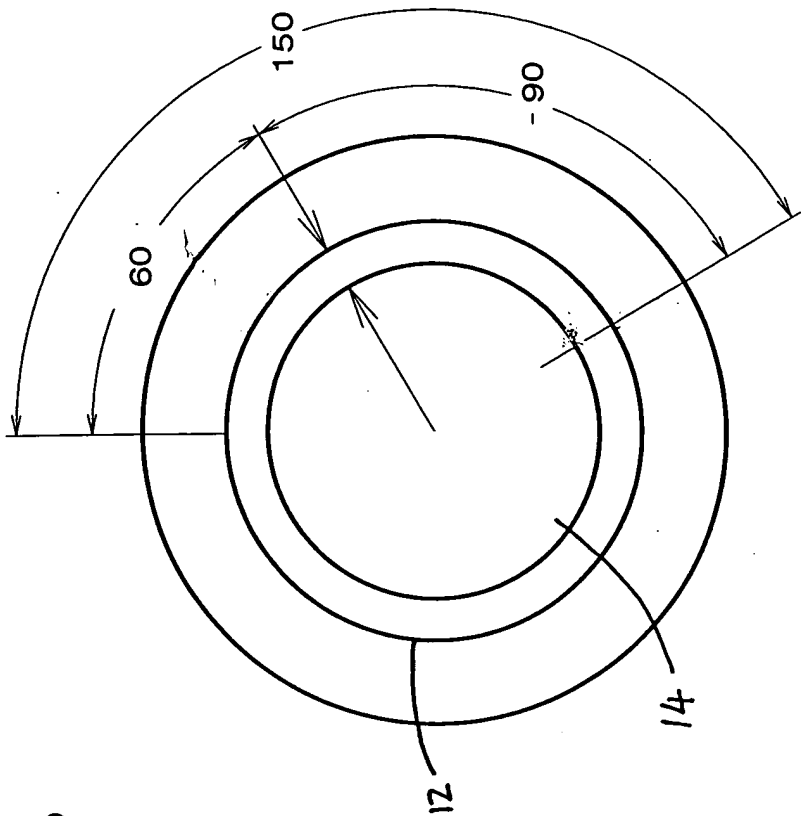
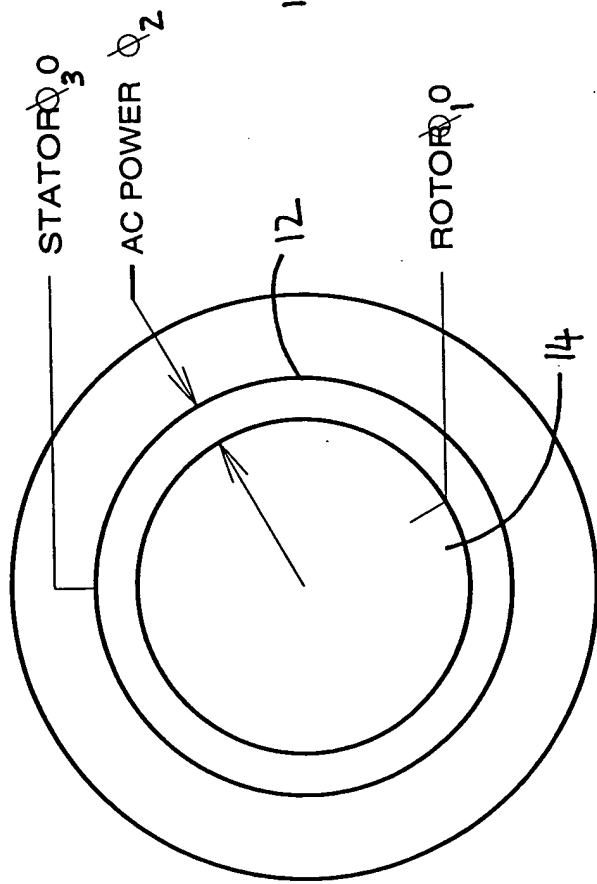
CASE:

AC POWER  $\phi_2$  60

ROTOR  $\phi_1$  ANGLE 150

RESULT:

$$60 - 150 = -90$$



ROTOR FLUX VECTOR MUST POINT AT -90 DEGREES TO REMAIN IN PHASE-LOCK

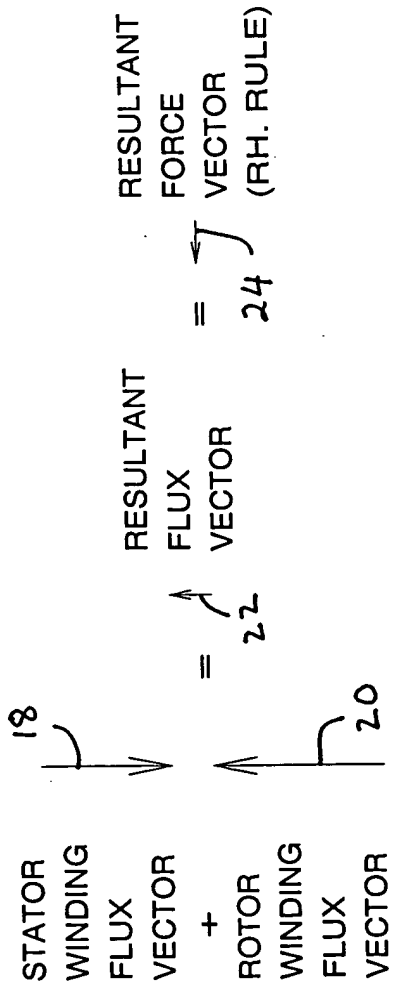
ALL NUMBERS IN DEGREES

Fig. 1

# EXAMPLE OF ROTOR FLUX VECTOR MAGNITUDE CALCULATION

CASE:

STATOR WINDING FLUX VECTOR MAGNITUDE	3 UNITS
ROTOR WINDING FLUX VECTOR MAGNITUDE	4 UNITS



ROTOR WILL ACCELERATE COUNTERCLOCKWISE

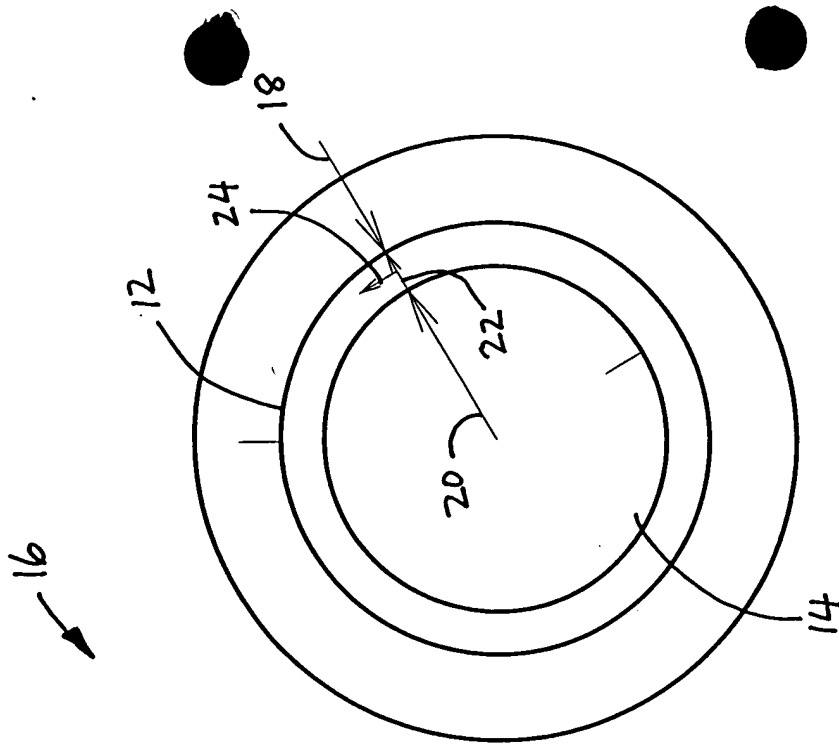


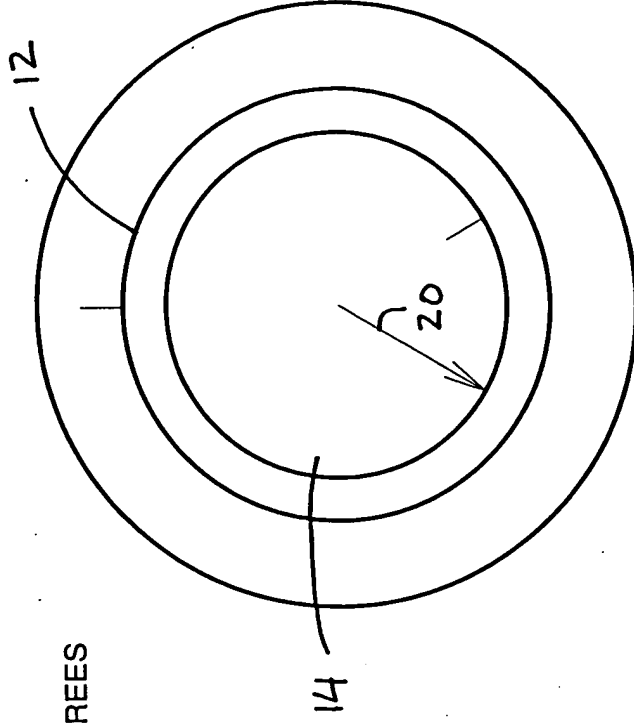
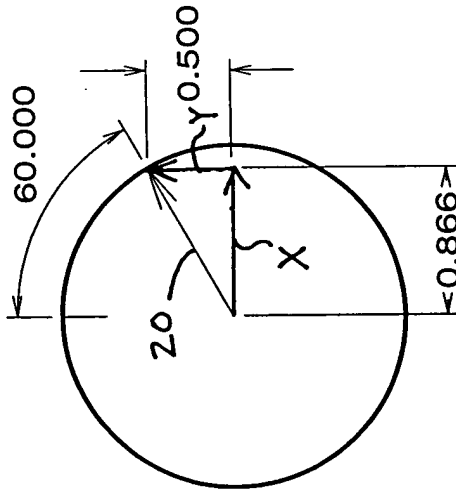
FIG. 2

26

EXAMPLE OF ROTOR FLUX VECTOR COMPONENT SEPARATION

CASE:

ROTOR WINDING FLUX VECTOR DIRECTION 60 DEGREES  
2-PHASE ROTOR WINDING

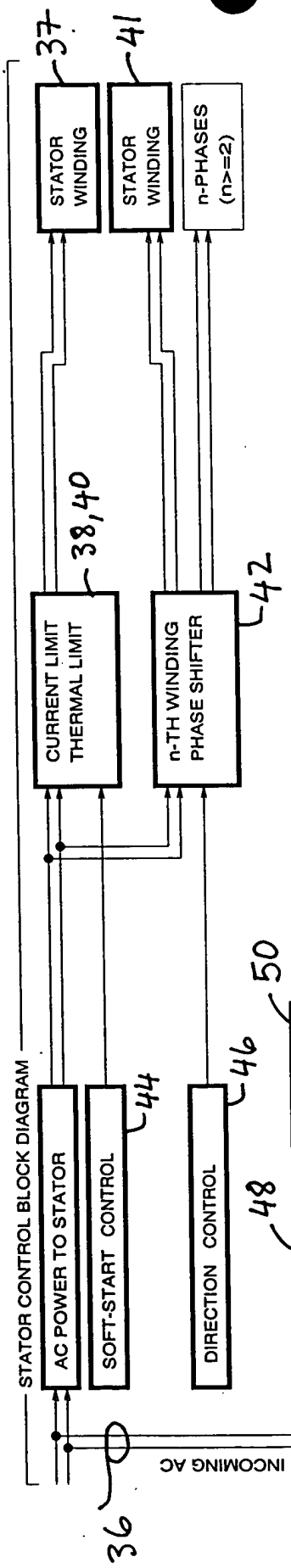


COMPONENT X DRIVE CURRENT SCALING FACTOR 0.866  
COMPONENT Y DRIVE CURRENT SCALING FACTOR 0.500

FIG. 3

208020" OF 67207 28

30



58A

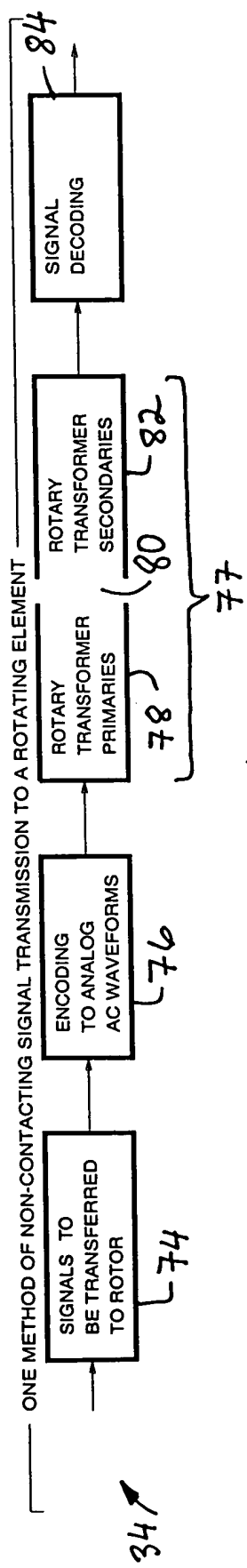
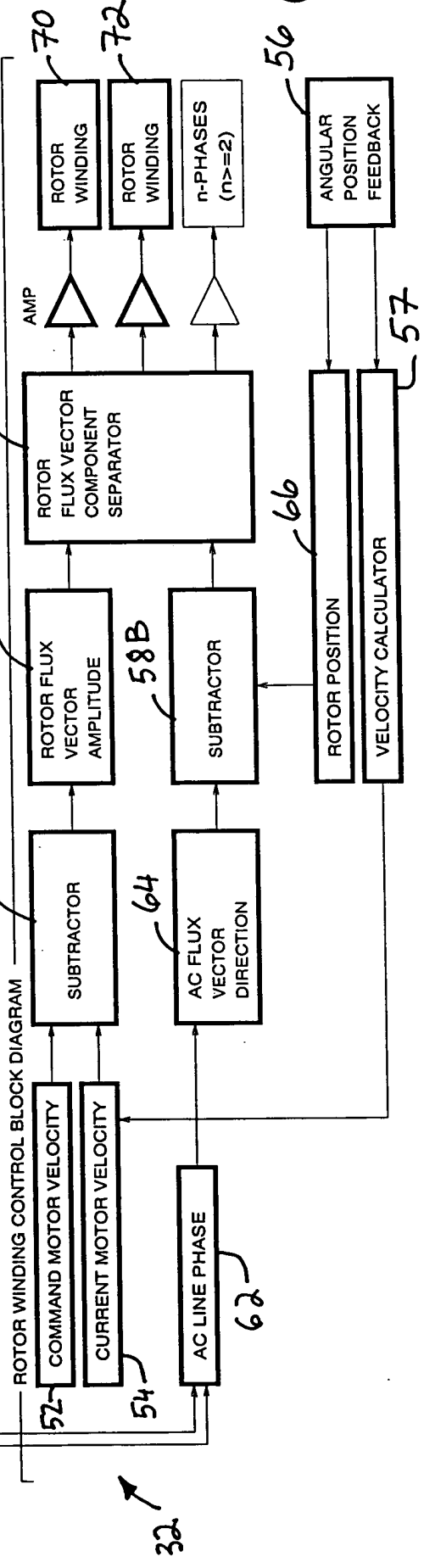


FIG. 4

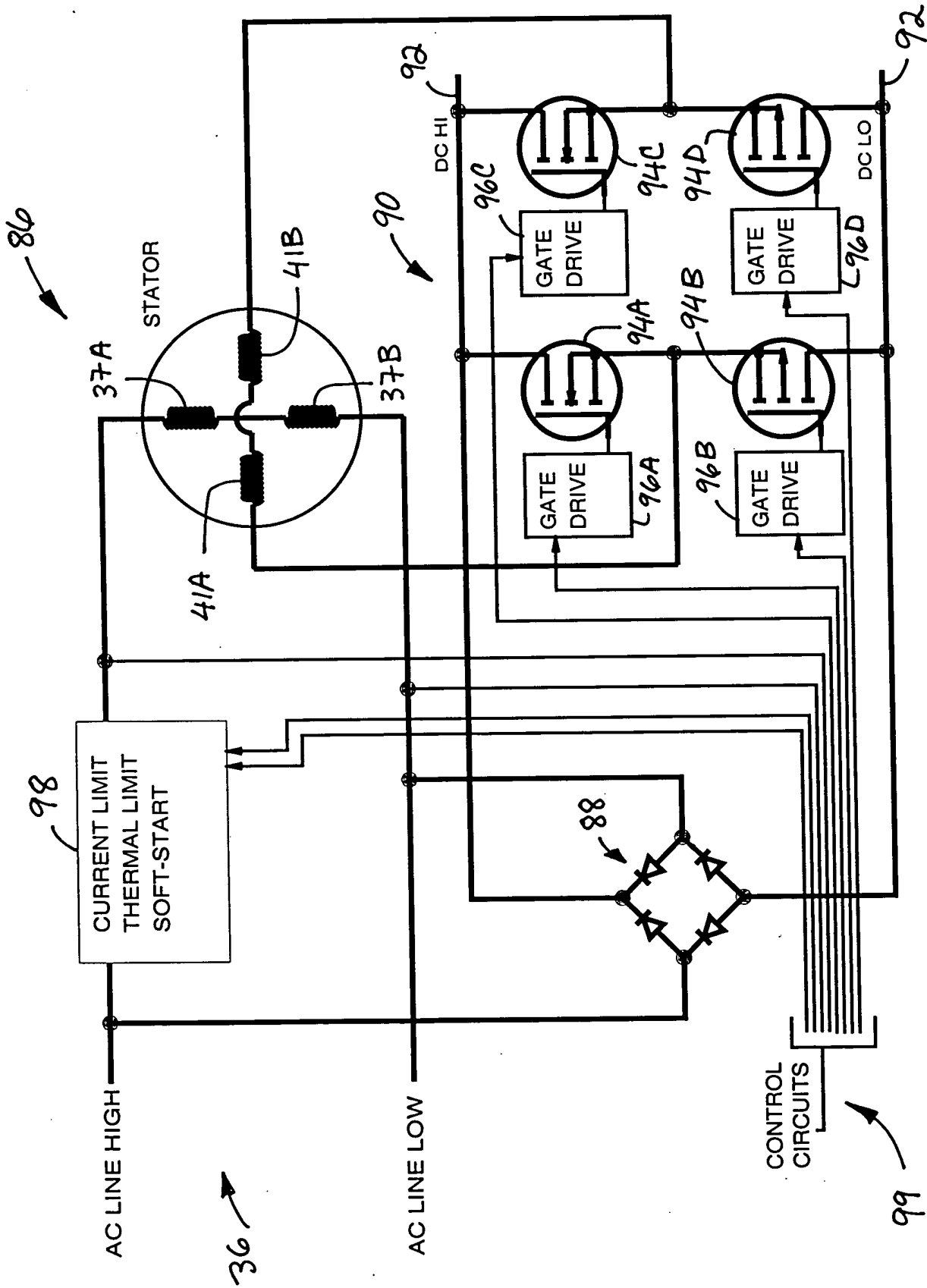
[illegible]

Fig. 5

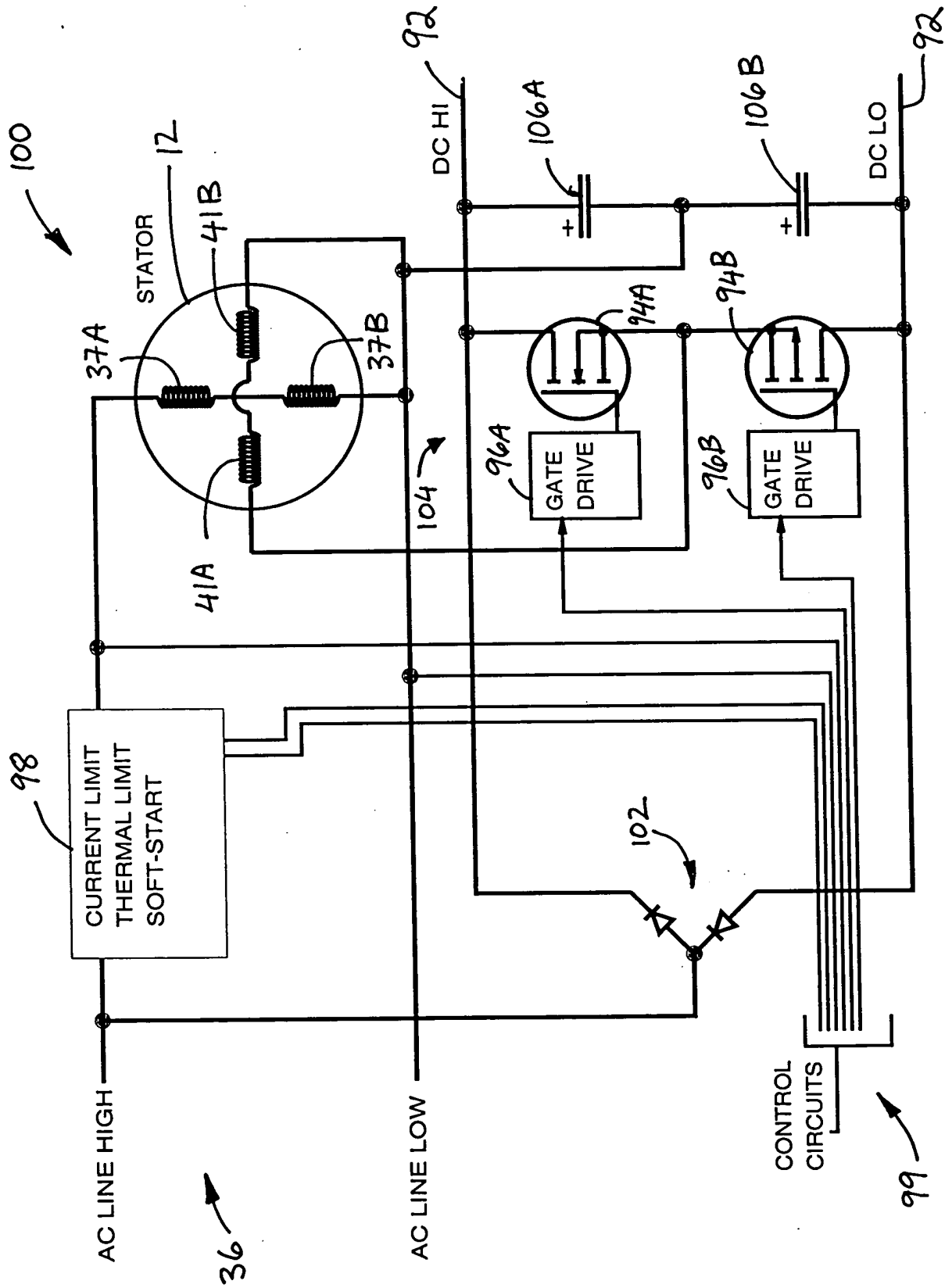


FIG. 6

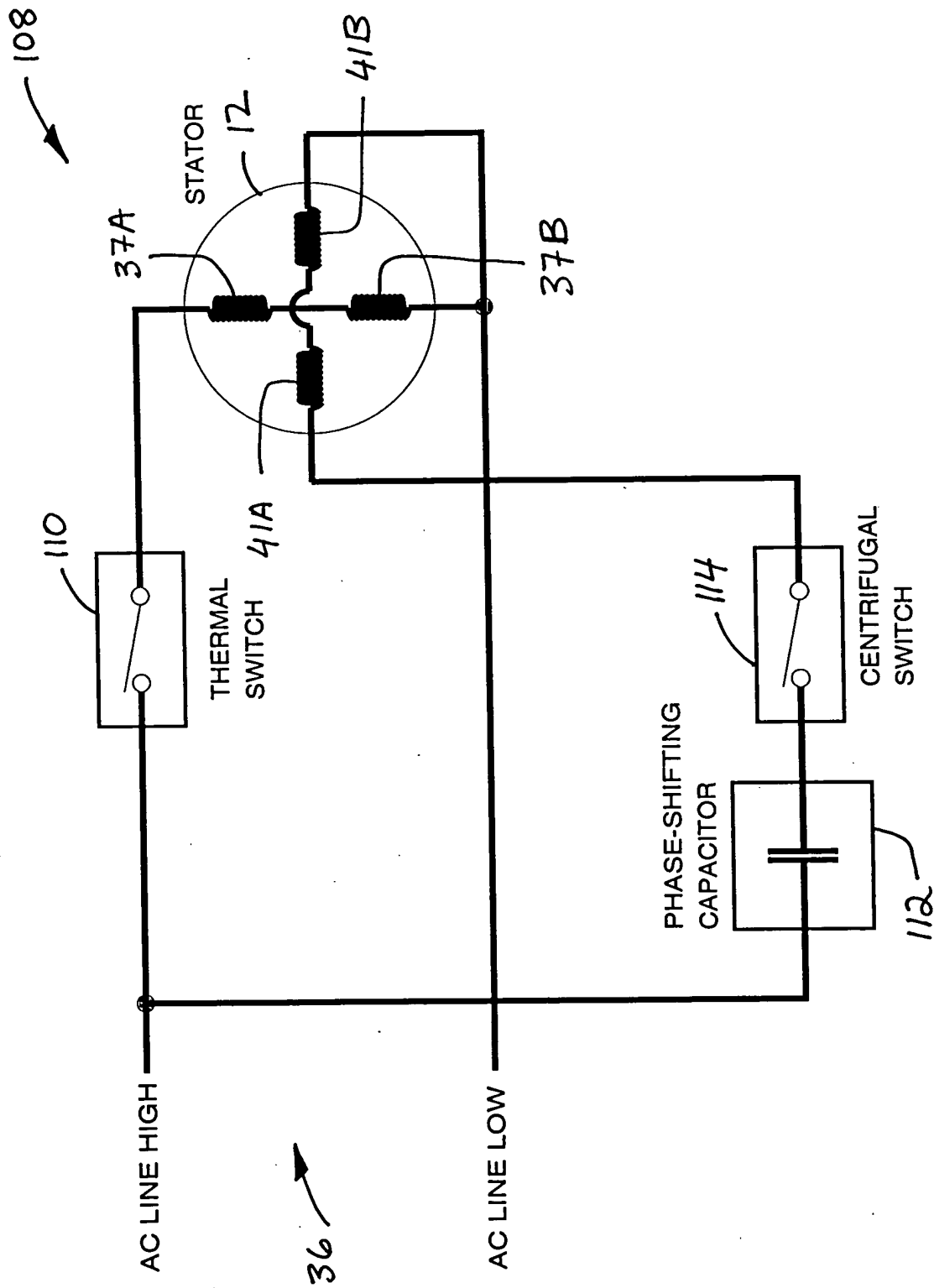


FIG. 7

20220" OF 6T 200T

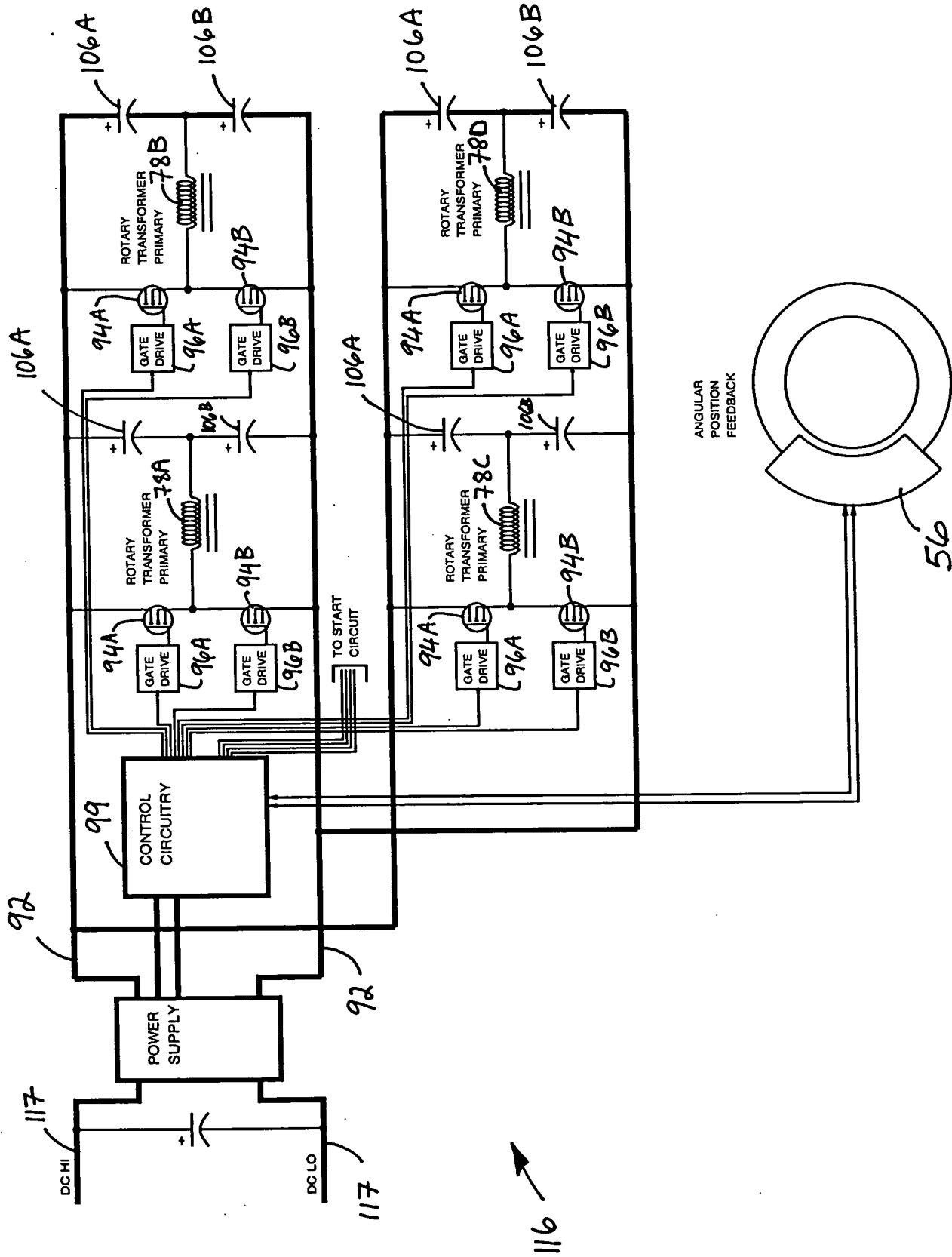


FIG. 8



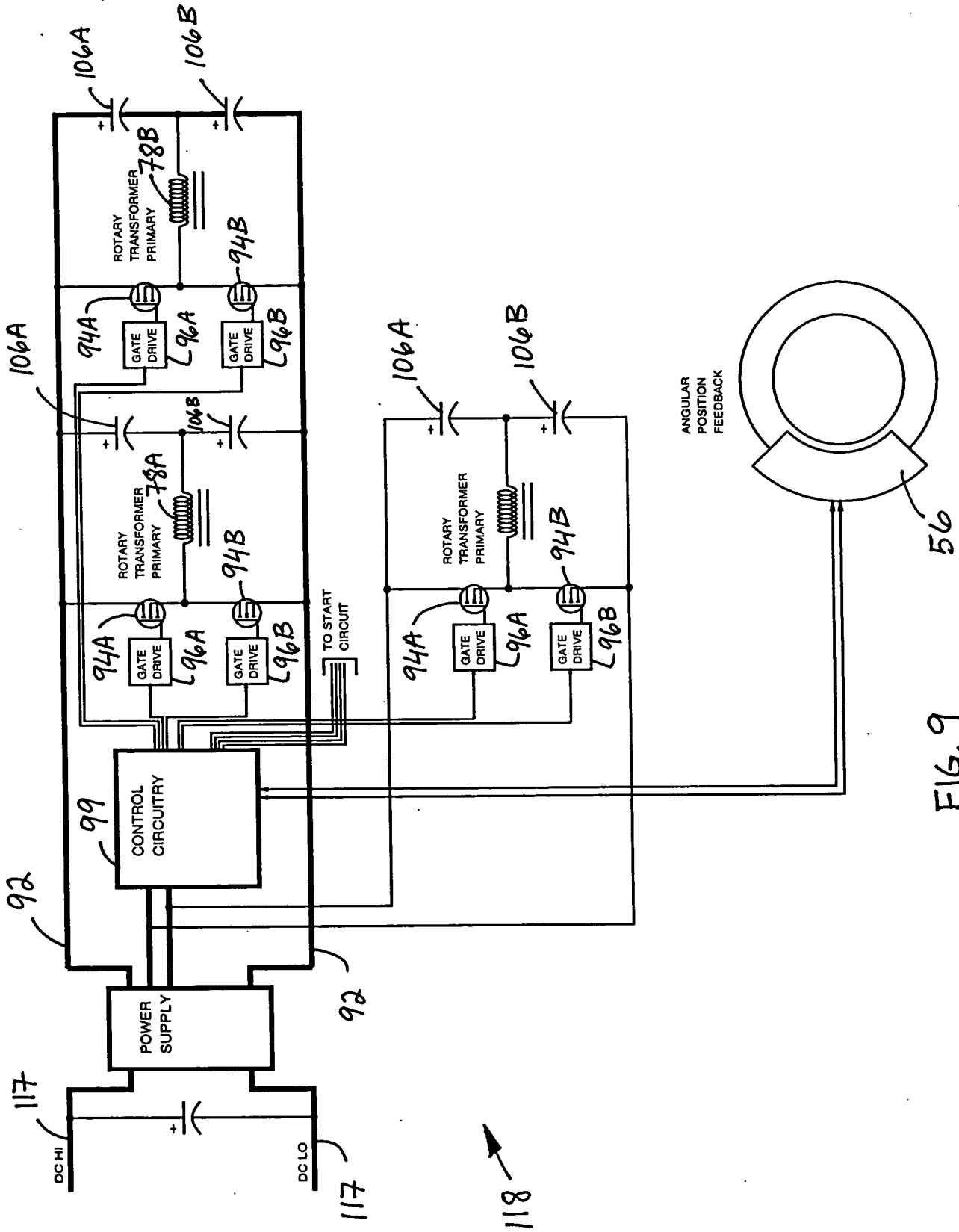
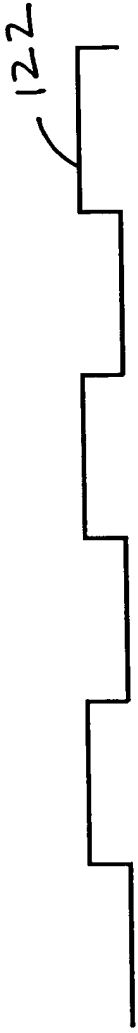


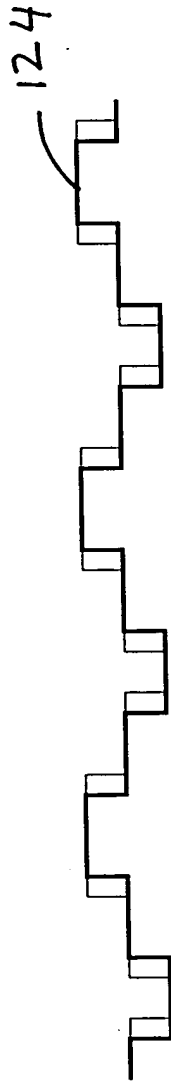
FIG. 9

208020" 0T6T200T

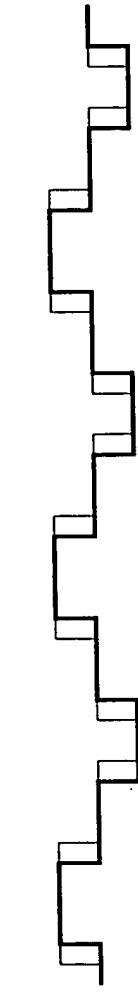
120 →



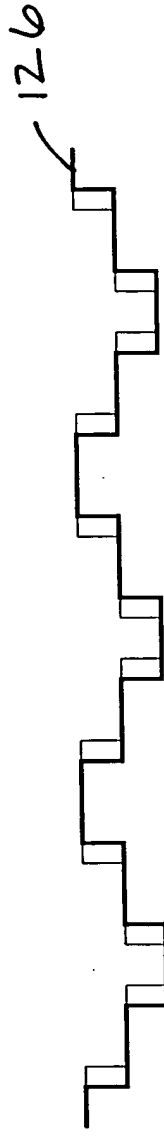
20kHz REF



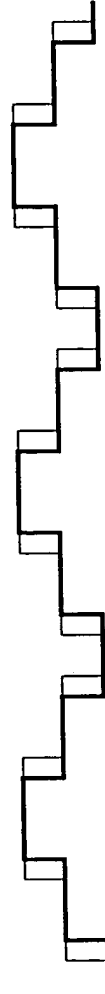
A WINDING  
SAMPLE  
POSITIVE  
DRIVE



A WINDING  
SAMPLE  
NEGATIVE  
DRIVE



B WINDING  
SAMPLE  
POSITIVE  
DRIVE



B WINDING  
SAMPLE  
NEGATIVE  
DRIVE

THREE-TRANSFORMER DRIVE TIMING DIAGRAM

FIG. 10



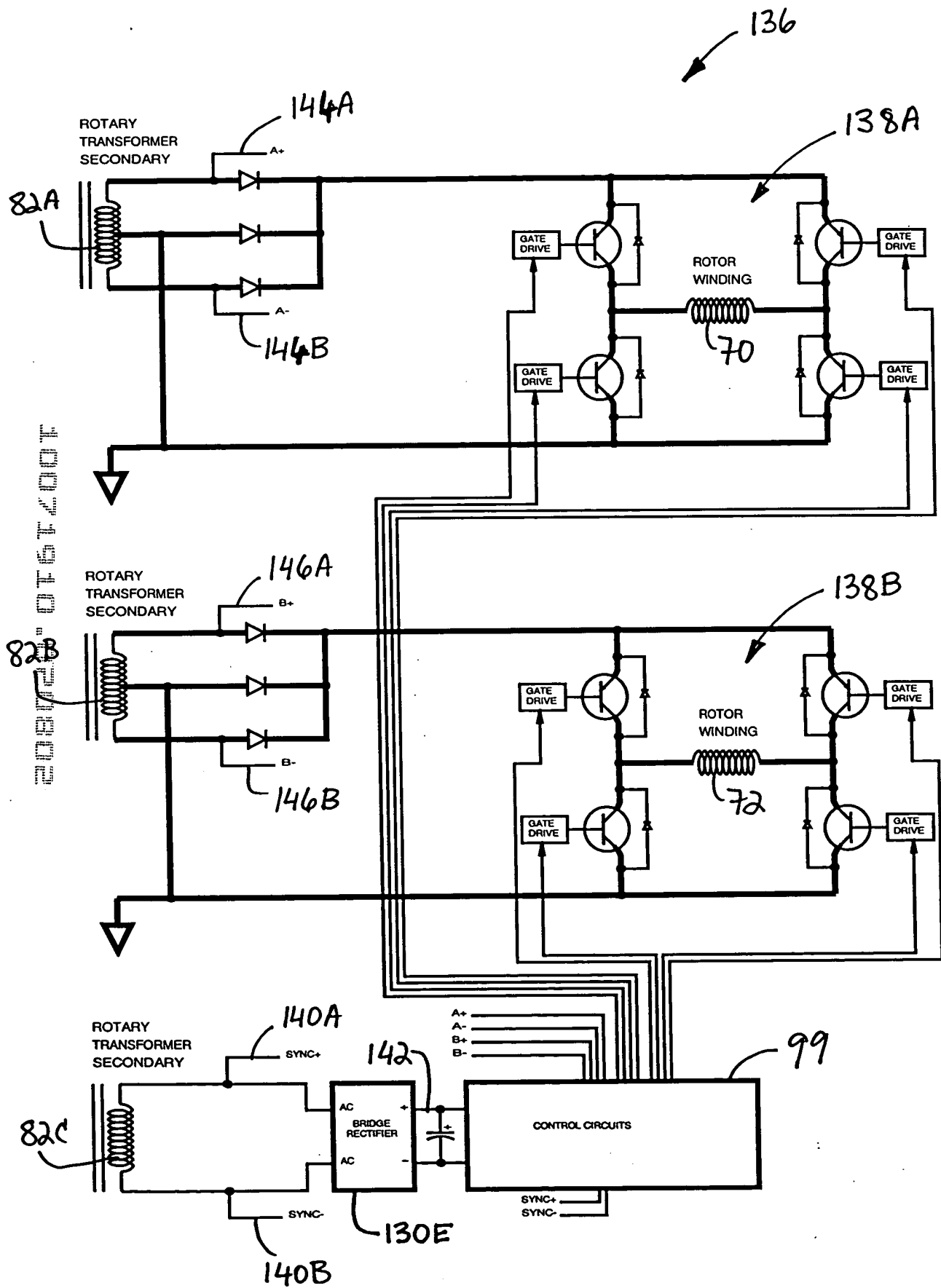


FIG. 12

148

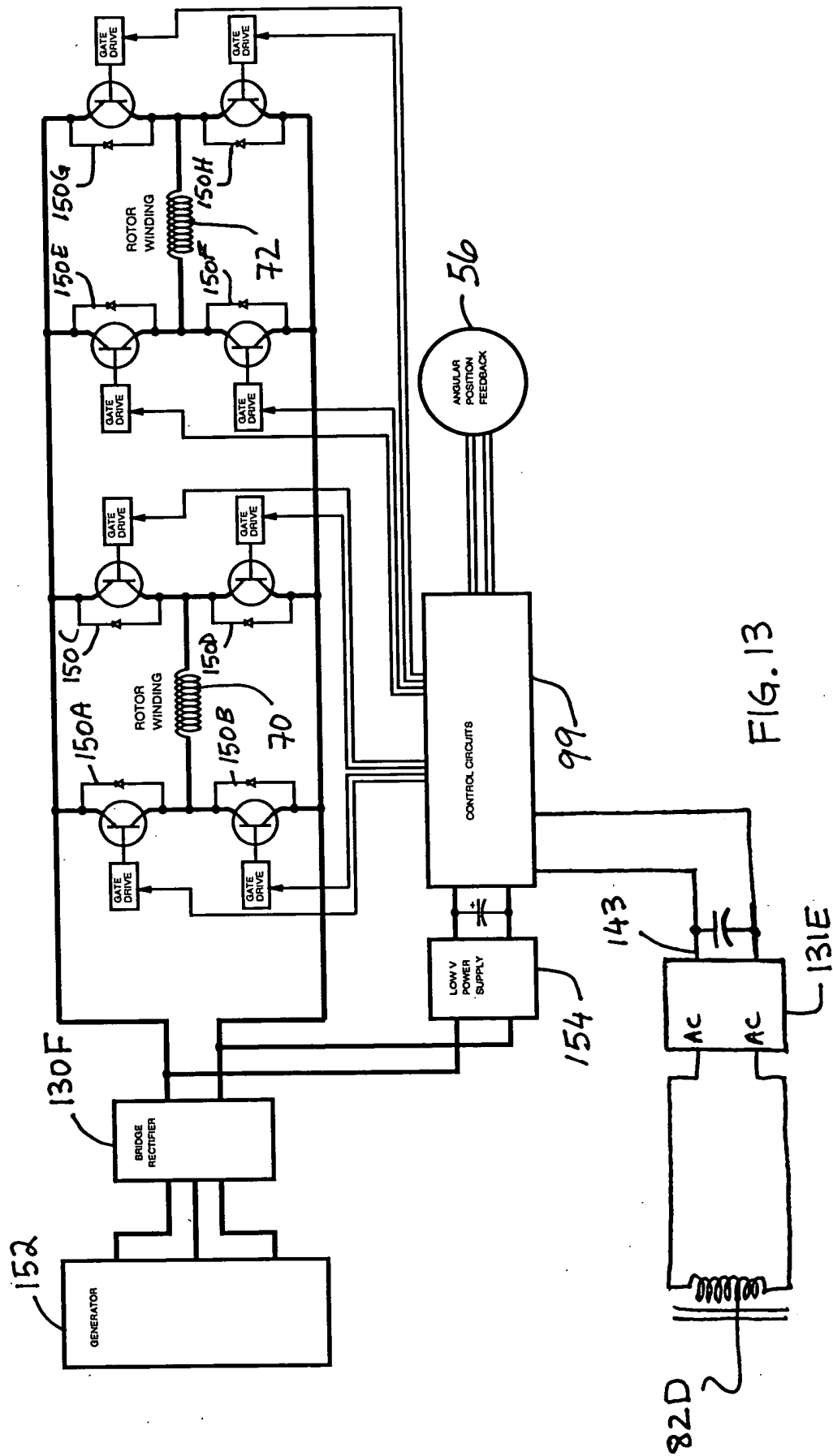


FIG. 13











2020218501612001

77

80C

186

188

190

158

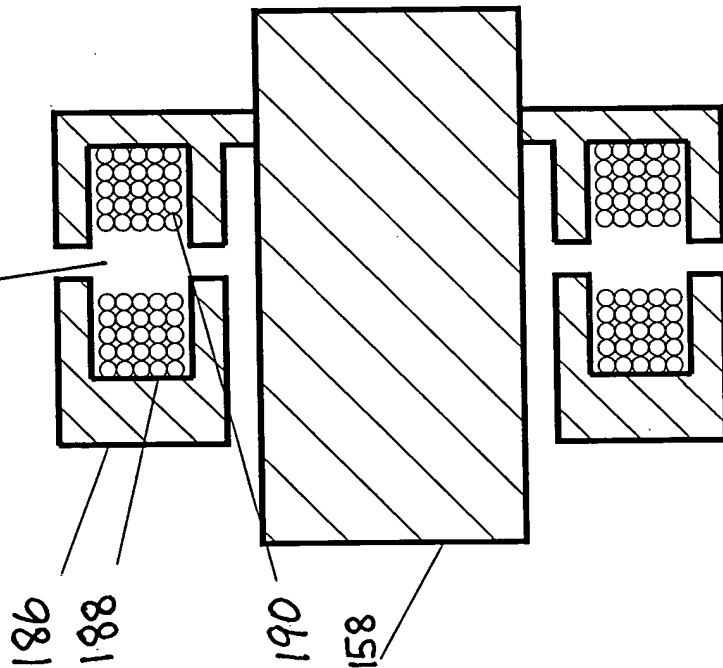


FIG. 18B

80A

78

82

158

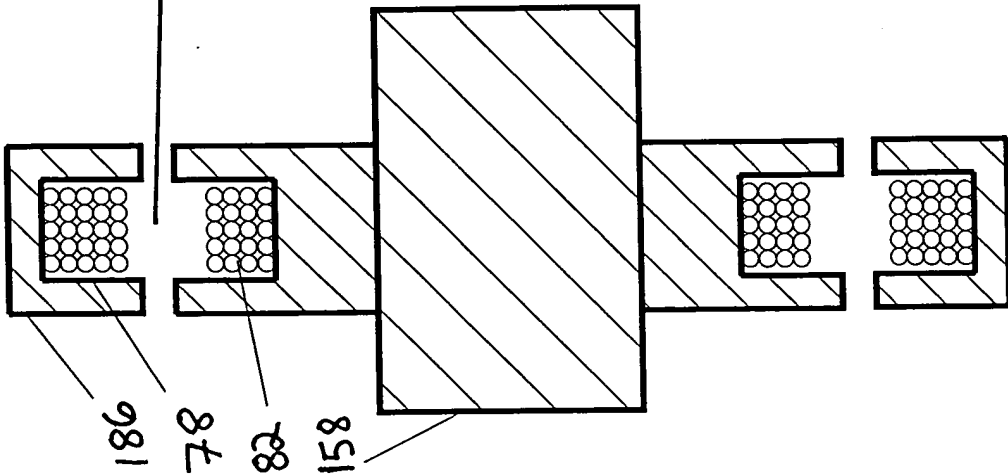


FIG. 18A